Episode 51: A Balancing Act

Chris Dall: [00:00:05] Hello and welcome to the Osterholm Update: covid-19, a weekly podcast on the covid-19 pandemic with Dr. Michael Osterholm. Dr. Osterholm is an internationally recognized medical detective and director of the Center for Infectious Disease Research and Policy, or CIDRAP, at the University of Minnesota. In this podcast, Dr. Osterholm will draw on more than 45 years of experience investigating infectious disease outbreaks to provide straight talk on the covid-19 pandemic. I'm Chris Dall, reporter for CIDRAP News, and I'm your host for these conversations. It's been roughly a year since the US was in the midst of its first surge of covid-19 cases, and public health and elected officials were just beginning to grapple with how they're going to control the pandemic. A major component of that struggle was how to maintain virus mitigation measures and keep people safe without destroying livelihoods, restricting individual freedom and affecting people's mental health. It was and has been ever since a difficult balancing act. A year later, the situation in the US is better. Covid-19 vaccines are rolling out at a steady pace, many of our most vulnerable citizens are protected and the end of the pandemic is in sight. But new daily infections remain high and some parts of the country are seeing variant fueled surges. And so a new balancing act has emerged for public health and elected officials. How to communicate that things are getting better, that vaccines will bring an end to the pandemic, but that caution is still needed even after you're vaccinated? On this April 15th episode, we're going to discuss that balancing act as we assess the state of the pandemic. We're also going to look at infection rates in schools, discuss blood clotting issues linked to two vaccines, and answer a listener question about vaccine side effects and we'll hear the latest act of kindness from an update listener. But first, we'll begin with Dr. Osterholm's opening comments and dedication.

Michael Osterholm: [00:01:54] Thank you, Chris. And welcome to all of the listeners today. We're so very pleased to have you with us. We know that you have many, many opportunities to get information about covid-19 and having you back into what we consider our podcast family is a real treasure. Let me just start out by saying that in the introduction we talked about balancing and where we're at today. And my past week has been really a tale of two cities, both some very highs and obviously some challenges. And the highs that I have to talk about, first of all, is one of incredible gratitude. That gratitude is with regard to my three year old granddaughter. I have five

grandchildren and the three year old granddaughter is the youngest of all of them, the only girl. And at age three, she had heart surgery this past week at the University of Minnesota hospitals. And I can't tell you what it's like to have those miracle workers who do the work that they did. And I'm happy to report she's doing well. She's home. She's as much a spitfire she's ever been. She's incredible. And as a grandpa, it's been a darn good week that way. So that part I'm really happy to share with you. On the other side of the ledger is the situation as we see it unfolding and it continues to unfold with covid-19. I try very hard to just call balls and strikes. And today I'll talk a bit about that, because there are some people, I think, that are convinced that that's not the approach that we take here. And for those who have been listening over the months, I know that, you know, we try to arm ourselves with data and share with you what we know and don't know with regard to those data. And so today I'll be talking about that in much more detail. But before I go any further, I just want to share a dedication. A dedication which is one that, frankly, is very hard for me to even acknowledge because I have to acknowledge what it stands for. This past week there was a paper in the Journal of the American Medical Association by Dr. Rachel Kidman and colleagues, this April 5th issue of JAMA. And what they did is they provided estimates and projections of covid-19 and the number of parents of children 17 years of age or younger who have died in this country. In other words, losing a parent to covid-19 as a young child. And what they found was that the number of children experiencing a parent dying of covid-19 is staggering, with an estimated 37,300 to 43,000 already affected. They provided for comparison the attacks on September 11th, 2001, left 3,000 children without a parent, and they know the burden will grow heavier as the death toll continues to mount. And just by way of background, and I think important to note, is that black children are disproportionately affected while they comprise only 14 percent of the children in the US, but 20 percent of those losing a parent to covid-19 were black children. This podcast is dedicated to all of the children who have lost a parent. And I can only hope that the rest of your family support system, your community, your friends, neighbors, whoever, have been able to be there to help support you. This has to be truly a tragedy on top of a tragedy. So for all the children out there, we're thinking of you and you have our deepest, deepest support. Moving to a more light issue, truly a light issue. Let me just point out that today on April 15th, we have 13 hours and 31 minutes and 4 seconds of sunlight here in the Minneapolis/St. Paul area. We've gained 21 minutes since our last podcast a week ago. And since the vernal equinox on March 20th, we now have gained 4 hours and 44 minutes of total sunlight. We are on our way to that June date

with a tremendous amount of sunlight. Thank you to all of you who write in and appreciate that reminder that we're seeing more sunlight and what it means to you. And to all of you in the Southern Hemisphere again, each week as I do, I just remind you that your day is coming. In the meantime, we're doing the best we can to ship the light to you.

Chris Dall: [00:06:34] Before we get into the covid-19 situation in the US, I wanted to start with the international situation. As you've been noting these past few weeks, these are the darkest days of the pandemic in many parts of the world. Mike, do you see any improvement on the horizon?

Michael Osterholm: [00:06:49] Well, Chris, this is one of the challenges on this podcast and just in general of providing information on the epidemiology of covid-19 around the world. I have continued for, as you know, many weeks talking about the fact that the darkest days of the pandemic were ahead of us. That was often interpreted to mean that for the United States as well. And while I'm going to talk more about that later, we surely have a severe challenge, the global picture is one onto its own that defines what the darkest days mean. Let me just remind everyone that the previous peak of cases reported per week was for the week of January 4th of this year at 5,044,020 cases. That's 5,044,020 cases reported in one week. We surely know that that's an underreporting relative to testing and the ability to have records submitted through federal health agencies. On February 15th, just literally a month and a half later, that number had dropped to 2,490,616, literally half of what it was on January 4th. This was when part of the euphoria that we saw in many parts of the world, as well as in the United States, beginning to take hold as case numbers were dropping precipitously in a number of countries. Well, that's all changed. The week of April 5th, this past week, we hit 4,550,837 cases. We are almost back to that peak number. And given that the fact that the increases are occurring right now well up into 450,000 thousand cases plus per week, next week, we will likely surpass the highest number of cases reported. And everything says that many, many more cases are in the pipeline as we see outbreaks in each individual countries only growing larger. So this is a huge issue because while, again, we want to focus on our own country and our families and what happens in our states and our businesses, I understand that. But as we've talked time and time again, the global perspective is also critical because it has a lot to say, not just about humanitarian aid, which is key, which is critical, but it's also about the issue of the

variants. And with this additional activity around the world, we're going to continue to see variants spin out of those infections. And that's the challenge we have going forward to protect the integrity of our current vaccines. Let me just give you a brief update of what's happening internationally. Europe surpassed one million deaths this past week. Countries like Sweden are now seeing one of the highest infection rates of Europe. The number of patients in Sweden's ICUs have surpassed levels reported during the country's fall peak last year. The vaccination rates in Sweden are about 19 doses per hundred people. 13 percent of the population has at least one dose. Only 5.6 percent are fully vaccinated. Again, they're way behind us in terms of vaccination status and they are paying that price. Germany is still fighting its third surge, which German health officials have now called a "serious, serious situation". I put that in, quote, direct quote, from them. Nearly 90 percent of the cases in Germany are B117. And hospitals are reporting that more and more young people are being admitted. Some are calling for tighter restrictions in the country, including Chancellor Merkel, who came out in support of a strict national lockdown this past weekend. In the second week of its third national lockdown, France is beginning to see a slight decline in cases, although infection rates and hospitalizations remain at an all time high. France will surpass 100,000 total deaths from covid this week, a figure that at one time seemed impossible in that country. Cases continue to drop in Poland, Hungary and Estonia, although these countries still rank in the top 10 worldwide for per capita cases reported in the last week. Quickly moving to Asia and the Middle East. Right now, Asia and the Middle East are reporting record high infections and deaths, which are increasing exponentially every week. India is experiencing its largest surge to date, setting a record for new daily infections this past Tuesday, with 185,000 new cases reported. The surge has arrived during the country's festival season, where millions are expected to gather daily through the end of April. I've been in contact with individuals from India and as they have described it to me, they don't know what is going to slow down the virus at this point. Turkey, Iran, the Philippines and Iraq are all reporting peak highs as it relates to their cases during the pandemic. In South America, Brazil has seen major activity reporting over 70,000 new cases a day and continues to lead the world in the daily average number of new deaths reported. Right now, one in four deaths reported worldwide each day from covid-19 are coming from Brazil. An estimated 80 percent of the cases in Rio de Janeiro and Sao Paulo are P1, the variant that we've been concerned about with regard to its ability to evade immune protection from vaccines or from natural infection. Brazil's experience has neighboring countries concerned, and some already in the midst of another surge,

including Argentina, Paraguay and Uruguay. Things have gotten progressively worse in Uruguay over the past couple of weeks, with the country now having the highest per capita infection rate in the world. Per Al Jazeera, once championed as Latin America's covid posterchild, Uruguay is now grappling with an explosive surge in deaths, according to government data, 121 covid deaths recorded in April has exceeded last year's total covid deaths. Africa now has an average of 10,000 cases a day being reported throughout the continent, down from 30,000 cases a day in mid-January. However, we have widespread reports of inadequate testing or lack of testing in many parts of the country where compatable illness supporting a covid diagnosis are occurring. And finally, let me just close on our neighbor to the north, one that I hardly really even want to consider as international in nature, it really is our sister country, and that's Canada. Canada now is at an all time high of 10,859 cases diagnosed on April 12th outpacing the US in cases per capita. In terms of vaccination, 20 percent of the population has received at least one dose of vaccine. Less than 3 percent are fully vaccinated. Their lack of a comprehensive and timely vaccine campaign is surely costing the country in terms of cases and a point of great discussion within the country. British Columbia now has declared its third wave has officially arrived. 970 new daily cases, test positivity over 10 percent in the past three days, and 3,289 cases have been confirmed and 18 people have died. The number of patients in critical care is at a record high. In Vancouver, the high number of hospitalizations is starting to affect the surgical capacity at all hospitals. People in B.C. are being urged to stay home in their immediate neighborhoods and only gather with small numbers of people. A new order allows B.C. public health to shut down workplaces linked to transmission. The B.C. school covid tracker reports 75 schools have identified variants of concern. 59 percent of the schools have had exposure events. It's notable that the P1 outbreak at the Whistler Ski Resort, which now is the largest outbreak of P1 outside of Brazil, has been linked to over 200 of the 877 P1 cases identified in Vancouver. More to the other side of the country in Ontario, cases and hospitalizations have reached record highs in Ontario, prompting a stay at home order that went into effect last Thursday, reminding everyone again that this abuts right up to Detroit. Schools in the province have also been moved to virtual learning. With the number of patients in Ontario ICUs growing by 31 percent in the past week, health care facilities have cancelled elective procedures and admitted adults now to children's hospitals and have set up field hospitals. You're getting a sense for what's happening around the world. And while we continue to have a very important effort put

forward in our vaccines, which should give us some advantage, we will talk more about what's happening in the United States and how do we fit into that global pattern.

Chris Dall: [00:15:51] So here in the US, the rise continues as the more transmissible B117 variant has become predominant in the country. The seven day average of new infections is around 69,000 cases, and cases are rising significantly in some parts of the country, especially in Michigan, but not in other parts. Mike, do you have any more insight into the regional pattern that we're seeing and if we'll continue to see that in the coming weeks?

Michael Osterholm: [00:16:13] Well, I'm not sure that I have an explanation for the regional pattern other than to say that it's real. But before I launch into that, let me just kind of lay a foundation of what we know and don't know of what's happening in the United States. First of all, let me lead on the good news. I think this has been remarkable what we've been able to do as a country with regard to vaccination. Of the US population, 120 million plus have received at least one dose and 74 million are fully vaccinated. That's 36.4 percent with one dose, 22.3 percent being fully vaccinated. Of the US population sixty five years of age and older, 78.9 percent have received at least one dose, 62 percent are fully vaccinated. I'd remind everyone that there are still 13 million plus individuals sixty five years of age and older in the United States that have not yet been vaccinated at all. There is substantial regional variation with the southern states of Georgia, Alabama, Mississippi, Arkansas and Tennessee having the lowest per capita doses administered in the US. And yet people say, "Look at there are very few cases there. Why is that?" The situation, and by the way, they're also opened up, seems inconsistent. Well, let me just paint the picture of where we are today in the country with cases and add context to that observation. As we are all well aware of, cases are increasing in the United States right now. They rose by 6.7 percent last week. 36 states saw their seven day average for new cases increase in the past week. Hospitalizations grew by almost 4 percent. 31 states and the District of Columbia reported an increase in hospitalizations. The test positivity rate for the first time rose over 6 percent since the surge of earlier this winter. The number of tests reported, however, fell 21 plus percent compared to the previous week. And we believe that Easter had something to do with that in terms of lower test numbers. But we're following that closely. If we look at what's happening right now, cases are higher and staying high in twenty six states and the District of Columbia. By higher, it means at least 15 cases

per 100000 population over the previous seven days. It's interesting to note that of these twenty six states, 70 percent of them are either in the Midwest or the Northeast. Cases are higher and going down in four states. One in the Midwest includes Iowa and in addition, three in the Northeast, New Jersey, New York and Rhode Island. Cases are lower and going up in four states: Washington, Oklahoma, Oregon and Nevada. And in the final 16 states, cases are lower and staying low. Before I lay out what I think is going to happen throughout these states, let me just provide a brief update on Michigan and Minnesota as what I think surely is a possible scenario yet to unfold around the country. In Michigan, you've been following this, you know, cases have reached levels reported during the peak of the state's fall surge. School related outbreaks continue to be the leading setting for outbreaks in Michigan. Of the 903 ongoing outbreaks that they are aware of, 264 are related to K through 12 schools. Notably cases among kids, 10 to 19 have quadrupled in the last four weeks. And now we're at an all time high. A number of outbreaks have also been tied to other settings like manufacturing and construction, 160 of such outbreaks, the second most behind schools. Hospitalizations are also approaching record highs. The November 30th peak, which occurred last fall, there were 4,361 individuals hospitalized. As of April 12, there were 4,118 almost an identical number and yet still going up. One month ago, March 13th, there were only 976 hospitalized. So it's increased literally by almost 3,000 plus cases since then. 49 children are currently hospitalized, which is a record high at any time since the pandemic began. Michigan has done an admirable job of getting individuals vaccinated with 41.3 percent of the residents having received at least one dose, 27 percent are fully vaccinated. Governor Whitmer has asked residents to avoid indoor dining, gatherings and youth sports for the next two weeks. CDC director Dr. Rochelle Walensky has urged Michigan to close things down. If you look at Minnesota right now, more than half of the cases in Minnesota are likely B117. Over the last 14 days, cases in Minnesota have grown by 60 percent and hospitalizations have increased by 62 percent. Like Michigan, our vaccination efforts have been admirable here. 47.7 percent of residents have received at least one dose. 32.5 percent are fully vaccinated. And finally, let me just add, CDC has provided an update on the variants of concern in the US, this was last updated April 10th. And there have been 20,915 in 52 jurisdictions that have been found to have been B117 infection. There have been 453 cases in 36 jurisdictions where we see B1351, the variant of concern first identified in South Africa. And then there have been 497 cases in 31 jurisdictions of P1, the variant that originally appeared in Brazil. So as you can see in total, the other variants B1351 and P1 make up only

about 950 cases out of what is at this point almost 22,000 cases. So B117 still is really the predominant virus that we must be concerned about. So let me bring that back then and say, so what is this really telling us? What do we know here about this? Number one, is just looking at the Michigan/Minnesota data. It can no longer be stated that there is not going to be surge activity around B117 in this country. These two states already addressed that issue head on, even with their previous activity that has been seen in both states in terms of cases who likely are immune from previous infection. With these really increasing and substantial vaccination rates, we're still seeing this major challenge. And I think that it really points out the fact that those who continue to say we're not going to have a surge, you just can't say that anymore. We've already had evidence of that at a local level. Now, it's fair to say why are we not seeing widespread transmission in many other locations in the country? You know, there does very definitely appear to be this concentration of cases in the upper Midwest, in the Northeast, that are far in excess of what we see in the rest of the country. But remember, we have seen this picture before. Last Memorial Day, we saw a slight bump up in cases in the upper Midwest resulting in an increase, they came down. Things seem to quiet out a bit in June. And then we got into mid June to late June, and all of a sudden the southern states lit up like firecrackers from the southwest all the way to Georgia. And we saw at that point in July, we got to 70,000 cases a day. Then we saw those cases come down in September, 26,000 cases a day around Labor Day. People all wanted to take credit for what we had done, although I'm not sure what we did necessarily, other than surely continue to try to distance and masking. And then guess what happened? The upper Midwest lit up again. Led by the upper Midwest, we hit 200,000 cases a day on November 20th, just before Thanksgiving. At one point, both North and South Dakota had the highest rates of infection in the world. Then those numbers came down such that by December we were back down to about 160,000 cases a day. It's hard to think of that as being down. And then all of a sudden the south lit up again, California to Georgia, with the exception, ironically, of New Mexico. We don't know why. And we then hit 300,000 cases on January 8th, an unimaginable number. And then it dropped precipitously. Everybody had an explanation for why. Seasonality, all those things that none of it make any sense, surely wasn't because we were taking more pains to distance ourselves. We weren't locking down. We didn't lock down. We don't know why. But now we're seeing the upper Midwest light up again. I don't know whether the rest of the country is going to get hit with B117 like we are, but there surely is some evidence of that. I'm already hearing about increasing cases in

several southern states. We're already watching many of these southern states, as I just noted, not vaccinating at the rates were vaccinating in the upper Midwest where we're having the problem. So I say, we cannot afford to let up for one minute right now on our vaccination programs. And number two, and I know this sounds like drinking barbed wire, but I keep saying this over and over again, we are the only country in the world, in the high income bracket for certain, where B117 is rapidly increasing in one or more areas of the country and we're opening up, not locking down. Now, people aren't going to want to hear this lockdown issue, but I do fear we will still pay a price over the coming weeks ahead. And if you can logically explain to me why that's not going to happen, given what we're seeing, given what we've just discussed with the epidemiology of this disease has been over the course of the last 14 months. I mean, why does it do this cycling between regions? I don't know. And no one can tell you. As I've said before, if they do tell you, be careful because they probably have a bridge to sell you to. And so I think that this is one of those moments where it's on balance. What do we do? This is a balancing act. No one wants to lock down. Governor Whitmer doesn't want to lock down when she's in the middle of a huge crisis. So I just want to leave you with the fact that at this point, this is far from over. This is far from over.

Chris Dall: [00:27:01] Just to follow up on the situation in Michigan, Governor Gretchen Whitmer has been asking the Biden administration to send more vaccines to that state, but the administration so far has said it will not change its allocation strategy. Would more vaccines help halt the surge in Michigan?

Michael Osterholm: [00:27:16] This is a really, really tough question. And I'm actually very empathetic to the position that the administration has taken with Michigan, not because I don't want to help them, but if you look at the timing to start adding additional vaccine into Michigan now and ramp up that availability, it means we wouldn't really begin to see an impact for three to four weeks minimum. And that, you may say, is still going to be helpful because this surge may be going on in Michigan for at least four more weeks. I would say better utilize the vaccine they have. Number two, and I know this is impossible, so I'm saying it almost as a wish list kind of thing, you got to limit the contact between people, whether it be bars, restaurants, schools, etcetera, to minimize transmission, which is the lesson every European country has taught us. Every everyone. That's what it took for them to really bring under control this virus. And so I think at this point if I had more vaccine, I might argue the best thing you could do is get

it to states that are likely to see early rising number of cases signaling that this is going to be the event of the next four to five weeks. And get the vaccine into those states where, in fact, you may prevent that big surge from occurring. So I know there are colleagues that will disagree with me on this. Some of my dearest and close colleagues will. And I understand that. I think right now the administration is doing the right thing by saying use your vaccine better. But you got to close down. You've got to do that. Now, I know that they can't in the sense of their legislative bodies would basically create real mischief in terms of the governor's positions or ability to enact emergency powers. But at the same time, it's all that's going to really be impacted immediately. If you shut down transmission today, not wait for three to five weeks for vaccine to kick in, you're going to have much, much more impact. And I know that, unfortunately, that's an impossible thing to do for many governors today. So we as Americans are going to get what we deserve, I hate to say, because of the way we're making decisions about this. I just urge us, please look at what the Europeans are doing and understand they don't like lockdowns either. They don't like them at all. I don't like them. I don't want them. It's a horrible way to live. But it's also the way to save a lot of lives. And I think that's what we have to understand. And so I'm very empathetic to our colleagues in Michigan, here in Minnesota, wherever. But I think the bottom line message is vaccine surging isn't going to solve your problem in Michigan in the days ahead.

Chris Dall: [00:30:17] So as you also noted, the surge in Michigan has been linked in part to schools and youth sports activity, and a similar connection has been seen here in Minnesota. How concerned are you about school transmission, especially at a time when more schools are reopening for in-person learning?

Michael Osterholm: [00:30:36] Let me just remind everyone on this podcast, again, the position that I have taken over the course of the past six months about reopening of schools, given the number of cases we've seen, particularly in K through eighth grade, that we could reopen schools relatively safely and do in classroom education. Well, B117 has turned that on its head totally. And let me just review with you some of the data and I'll give you my conclusions on what we need to do in school. As I've already pointed out, B117 has become the dominant strain in many areas across the US. And this is the time to, I would say, be very vigilant, consider alternative options and be ready to pivot quickly with regard to schools. It's more transmissible, the most recent study from Imperial College in England, I think the best one done to date, shows that it's

50 to 100 percent more transmissible than the previous strains of the virus we've dealt with. It's spreading rapidly in our communities. This time around, kids appear to be very involved in transmission patterns that we hadn't seen before, and they, in fact, are driving, in some instances, community transmission. While there are some debate, does it cause more severe disease or not, there was a paper that appeared yesterday that seemed to refute that. A number of others do support that it creates more severe illnesses and I tend to believe that's the case. Even if we don't have higher mortality in kids, there can still be a lot of serious morbidity. And we should try to prevent these infections among kids, particularly as they transmit them to the community. But we need to be asking ourselves, do the recommendations based on the original virus transmission patterns still stand in the face of more transmissible variants that are associated with more severe disease? If you go back to the original guidance before the variants ever showed up, we have this CDC published indicators that were meant to help guide school reopenings. For example, in Minnesota, we look at the learning model parameters. If you have 0 to 9 cases per 10,000 population over 14 days, you can do in-person learning for all students. And basically it goes up from there whereas if you have 50 plus cases for 10,000 population over 14 days, it's all distance learning and everything in between. Now you can argue, where do these numbers come from? What do they mean? How do they work? But let's just take the considerations for the schools right now. Forget those numbers. I'm going to show you why they're not relevant, I believe. Let's just look at the number of instructional days we have for the remaining days of the school year. If you assume the last day of school is roughly June 10th for students who are in hybrid learning, this may equate to 16 to 20 in-person days of instruction. Well, in high schools, one infected student can lead to 60 to 90 students being quarantined for the next 10 days. Right there, look at what you've blown through in terms of people being able to be in school. In elementary school, on average, 20 to 40 students may be quarantined with one case. Same phenomenon happening there. And parents are impacted when kids bring the virus home. Right now, we're seeing increasing cases in 30 to 39 year olds and 40 to 49 year olds. Likely this is due in kids bringing the virus home from elementary, junior high and high schools to their families, much like we see with influenza. I mean, this is influenza model 101. If you look just in Minnesota, B117 in Minnesota, there have been 1573 cases. The average age is 34, but 30 percent of the cases are under 20 years of age. And remember, from the dedication we had at the beginning of this podcast, we know from the JAMA paper that I just cited, almost 40,000 kids have lost at least one parent as of February, 2021.

Testing may be important to help us out. Remember, people are infectious prior to development of symptoms, so any effective testing in schools would need to test asymptomatic people frequently. And right now we have a problem with people being tested at all. We have had numerous reports, I've had literally mothers on the phone crying about the fact that their child was in a school where they were on a sports team or in some event where there were known students who likely had covid, they were ill, they had all the symptoms, they had been exposed, and their parents refused to get them tested. These were parents who didn't want to have their kids tested so they wouldn't have to notify anyone that they were infected so they would not interrupt their school based activities. I mean, I can't think of anything more selfish and how you could do that to your own child, I don't know. Well they say, "Well, the child wanted to play sports". Well, that's a problem in terms of what that means. And so I worry about the testing issue right now in schools, even in terms of how that's happening. So let me just summarize this by giving you some of the current circumstances happening in schools and then kind of give you my bottom line message. Ontario shut down all of its in-person classes this past Monday. Premier Doug Ford made the announcement at a news conference Monday, saying the situation is changing quickly and we need to respond. Right now, I'm extremely concerned about the new variants. As of Monday, about 27 percent of Ontario's 4,828 publicly funded schools currently have cases in them. Education Minister Stephen Lecce said this worrying trend will leave us in an impossible situation if we do not act immediately. In Michigan, 336 school outbreaks, including 51 new outbreaks in schools reported on April 12. In Illinois, data published on April 9th covers the data collected from cases in the past 30 days. 1,062 schools with potential exposures, this is about 25 percent of the schools in Illinois. And then Minnesota, I have to come back here, I can't say enough good things about the Minnesota Department Health's efforts to define the epidemiology of covid-19 in the state. Right now, we have seen in the past two weeks 790 schools, about 15 percent of all the schools, have had cases of covid-19. 657 are schools which are considered to have had outbreaks. Of note, there was a similar number of buildings impacted that had a case last October/November during the peak of the surge in Minnesota. So the building numbers are about the same. I believe we're still going to keep climbing. We're going to see more and more schools impacted in the next several weeks. But what was interesting is that only about 1/4th of the schools reported outbreaks compared to what we see today, saying that this virus is likely much more infectious. Once it gets into a school setting, we had basically almost 80 percent of the schools having an outbreak as

defined by the health department, where it was only 1/4th of the number of school reported outbreaks in the peak last fall. Now, I just have to close with what I think is, to me, unconscionable activity. And I know I will surely hear some very negative comments back from this. And frankly, I don't give a damn. I think this is absolutely wrong. We are seeing more and more sports activities involving Minnesota kids being moved out of Minnesota to South Dakota so they don't have to comply with the restrictions on covid-19. Literally, we recently had a very large wrestling tournament involving over 2,000 kids K through 8th grade that was originally scheduled for Rochester, Minnesota. And it was canceled and moved to Sioux Falls, South Dakota, because there they don't have the restrictions on the individuals, how many people could be together, indoor activity, etc. We now have an outbreak going on with them and we actually had evidence now, in retrospect, there were kids known to be sick who wrestled in that meet. How can parents do that? Tell me, please, how can parents do that? It's not only, I think, irresponsible for your kids, but everyone else's kids, everyone else at those sessions. I think that's terrible. We have evidence of more of such events are occurring right now outside of Minnesota being moved out for sporting activities because of our own restrictions here. I think that's just dead morally wrong. And you can yell at me, you can send whatever emails to me you want, you can describe me however you want. It's wrong. And, you know, I learned a long time ago as a kid right is right, even if nobody's right. And wrong is wrong even if everybody is wrong. And I'm telling you this is wrong. So that's what I worry about today in schools. I just don't understand at this point how we're going to successfully provide an educational experience in person in areas where B117 is occurring. School nurses have told me over and over again, you can smell this one a mile away. Just like the example I gave you of how many schools have outbreaks right now in Minnesota? This is just a different bug. It is acting much, much more aggressively in transmission. The overarching message for me, this is really a time to be very vigilant and being concerned about B117 and the attack rate is concerning on how it spreads in our community. And I think if you have a school district in an area where you have evidence to B117 transmission, you're not going to be in business long or you shouldn't be. You should be distance learning. And let's just get through the end of the school year. Let's get kids vaccinated this summer, as many as we can. Let's hope we'll have vaccines by early fall for the youngest of our kids. And don't try to, in a sense, save the rest of the school year with this situation if you are in an area where B117 is occurring. Now, if you're in an area where it's not, I would actually say, well, try it, see what you can do. But if you're in an

area with B117 right now, you have an impossible task. If nothing else, please just go back and read the letter from two weeks ago from Dr. Snyder. Many of you who've been listening to this podcast know how powerful that letter was with regard to what we need to do for our children. So I think at this point, school is going to be tough, B117 is going to redefine it and let's cut our losses, and not hopefully that they're losses in the sense of people becoming ill, people being seriously ill, being hospitalized and even dying.

Chris Dall: [00:41:54] Mike, earlier this week, the FDA and CDC announced a pause on distribution of the Johnson & Johnson vaccine to review data on six cases of severe blood clots in women who received the vaccine. The CDC's Vaccine Advisory Committee then decided to continue the pause, 7 to 10 days to collect more data. So what do you make of this decision, Mike? And how should listeners be thinking about this?

Michael Osterholm: [00:42:18] Well, this is clearly a very concerning situation on many levels, but the first and foremost one is for the individuals who have obviously suffered one of these events following the vaccination and what that means. We know that to date there have been six cases of what we call cerebral venous sinus thrombosis, a very unique type of blood clot in the brain, and that I'll come back to in a moment. And there were six cases reported through the vaccine adverse event system here in our country, or known as VAERS, jointly managed by the CDC and the FDA. These 6 cases all occurred in women between the ages of 18 and 48. One individual, a white female, died as a result of the situation. In addition, there was one case found in actually the clinical trials with regard to the J&J vaccine, and that was in a 25 year old male. For the 6 cases reported to VAERS, they occurred on average 8 days after vaccination in a range from 6 to 13 days. When the initial data became available last week, we were aware that the Europeans were looking at it, the EMA the European equivalent of the FDA, at the information, as were our government agencies who oversee vaccine safety and follow up with VAERS. On Tuesday morning we received the information that in fact the administration had decided to put a pause on the distribution of the Johnson & Johnson vaccine for use in our vaccine programs. This obviously caused a great concern for those who had recently been vaccinated with the vaccine as well as what might this do to the program? Vaccine availability, vaccine hesitancy, the issue of trust. Yesterday, the Advisory Committee on Immunization Practices, or the ACIP of the CDC, met and reviewed these cases. They brought in outside expertise. They concluded their

meeting by actually laying over a final decision on what to do, waiting for additional information to come in, given that vaccine was administered as late as Monday. And if we look at an 8 day average time period from vaccination until when we might expect to see an event, they wanted to collect that additional information. So it looks as if right now the pause will be in place for at least 7 to 10 days. And they announced that they will be meeting again tomorrow, Friday, to have further consideration of this issue. As all of you know, I'm not a clinician. I don't have expertise in cerebral venous sinus thrombosis or CVST. But as an epidemiologist and someone working very hard on the distribution of vaccines to save people from this terrible, terrible situation with covid-19, let me just tell you what my take on all this is. First of all, let's just acknowledge that there are two camps that have developed around this issue. One, who thought that the administration was too fast and moving on this, it's creating irreparable harm to the vaccines in terms of what they can do, and that it surely is going to also mean that vaccines may not get to some of the people where the single dose was really a superior vaccine. Those hard to reach, those who are homebound. It surely lays out questions about the international availability of the vaccine. Now we've got this one, and I'll mention in a moment more about AstraZeneca's vaccine. But here we are saying that these vaccines have a problem in our countries but this is going to be the backbone of the international vaccine distribution system. Those are legitimate concerns. When you look at the risk of this situation, you can also argue that maybe we've taken this out of context. There were six cases, as I mentioned, in this age group of 18 to 48. There were approximately 1.5 million doses delivered, i.e. 1.5 million individuals were vaccinated with J&J since its first availability. If you look at the six cases in that 1.5 million group of women between the ages of 18 to 48, that works out at about 0.4 cases per one hundred thousand vaccinees. 0.4. Now, to put this into perspective, if you look at the risk of CVST for individuals who are using oral contraceptives, the risk of CVST per 100,000 people per year is about 2.7 to 40 per hundred thousand people. So up to a hundred fold higher than we would expect to see in terms of the risk with the vaccine. If one looks at pregnancy and deliveries, there we expect to see on an annual basis 10 to 12 CVST cases per 100,000 deliveries. Again, now we're talking about 30 times higher risk in terms of what one might expect. And in particular, if one looks specifically at covid-19 cases, which is a very relevant relationship measurement, you can expect to see 2.5 to 20 CVST cases per 100,000 covid cases. And in comparison, that would be anywhere from a 10 fold to a 50 fold increase risk in terms of what one might expect to see versus taking the vaccine. So it's clear and compelling that taking the vaccine will

actually result in a reduction of CVST occurrence among those who would otherwise have gotten covid and wouldn't have been protected. And it surely has a more favorable picture in terms of incidence compared to oral contraceptive use, something that we routinely use in our communities today in the same individual age group and among women. So from that perspective, you could also argue that the pause was really unnecessary. We could have just said, we're going to look at this issue, it's like other medications or there may be a concern, but the overall benefit is there. I tend to come down on this very much supporting the administration, given the number of questions that have been raised about safety and how are we monitoring it and how are we being transparent about that. Had this not occurred, I think that there would be a major challenge going forward about what else are we keeping from people? That would have led to even more concern about vaccine hesitancy. So to me, I think this was very important. In addition, this pause was really meant to be a reset, to take the time to educate physicians that the way to treat this is not the standard treatment approach that has been used when you typically think of blood clots. A recent report in the New England Journal of Medicine actually provides some clarity as to what might be happening with regard to the vaccine in these patients and how best to treat them. The authors found that vaccine induced immune thrombotic thrombocytopenia that was associated with certain IgG antibodies that recognize the platelet factor 4 and activates the platelets through their certain receptors. Meaning that, in fact it was an immune response that causes the platelet situation as well as the clot. And so by actually using intravenous immunoglobulin, one could actually inhibit the platelet activation and then basically treating this situation. What is really important here is, is that rather than treat with heparin, you want to inhibit the platelet activation by treating with intravenous immunoglobulin. And that is a very different approach. It was very important from the perspective of the pause, is to give time for the clinical community to become well aware of the situation. And should a patient present that may be experiencing a CVST associated with the vaccination that they not be treated with heparin, but rather with intravenous immunoglobulin. And I think this is a very important point. So that's number one why, to me, the really critical message here is that we have to be transparent. We have to be such that no one can suggest that there were cover ups or delays in letting people know about this. And frankly, I think if I were one of the family members of those individuals who had experienced one of these CVSTs that likely is associated with both adenovirus vaccines, both AstraZeneca and J&J, that had not covering this I think would have been a major disservice to those who have already had one of these events. So

for my perspective right now, where we're at, is one is we have to just be transparent and we have to also do what we can to make sure people understand this relative risk of CVST with these vaccines and the other conditions that we accept every day where we take certain kinds of pharmaceutical products that result in a much higher risk and accept that. You know, if someone is willing to use an oral contraceptive, hopefully they could see the logic of why the risk for getting vaccinated is so, so much lower for CVST, but more importantly, by preventing a covid-19 infection they really reduce their risk of having this happen. In the meantime, we have to acknowledge we have an international challenge on our hands. I think it's very clear that the vaccines that we must deliver to the low and middle income countries were counting heavily on both AstraZeneca's and J&J's vaccines. We have to understand now that these vaccines are going to be associated with these kinds of events. We are going to need a very thoughtful message for low and middle income countries why we're predominantly using messenger RNA vaccines, but we're willing to send our adeno construct vaccines to them. And I understand the inconsistency of that message right now at face value. But it's true, right? Everything we have says that AstraZeneca and J&J vaccines are going to be the workhorse, as I said. So stay tuned to this situation. I do hope that we get the J&J vaccine back. I hope that we can be able to streamline our recommendations so potentially, like the European countries have done, where they are not recommending J&J for specific age groups, genders. And I can see here in the United States making a recommendation that excludes women, for example, 18 to 50 years of age from using this vaccine and recommends one of the mRNA vaccines. But it would be really unfortunate if we lost this one, the single dose approach. So stay tuned.

Chris Dall: [00:54:27] So here's another vaccine related question that we've been getting from our listeners. Now, we don't have a specific question, but there's been a lot of discussion about immediate side effects from vaccination, such as fatigue, achiness and fever. As you've explained previously, these are the signs that your immune system is responding to the vaccine. But some of our listeners have said they didn't have any reaction and they're wondering if that might mean the vaccine won't protect them. What can you tell them, Mike?

Michael Osterholm: [00:54:53] Well, let me just be really clear right now that the doses of vaccine you receive don't have to knock you out to protect you. And I worry that some people have actually felt like it's more of a badge of protection by the more severely ill

that I've gotten. If we look at the immediate side effects of vaccination, and we just talked earlier about the challenges with the more serious impact of the adeno vaccines as a long term issue, meaning it's multiple days out from your immunization. I'm now just talking about what happens the next 24 to 48 hours after you're vaccinated. We know that one of the side effects of vaccination is anaphylaxis that we've seen about 1 out of a million people who actually need an EpiPen. That basic like a food allergy or anything else, they have this kind of reaction that does require them to be attended to. These are mild situations. No one has been seriously ill. If you look at the Phase three trials in terms of both the Moderna and Pfizer vaccine at least, what you see is with the Pfizer vaccine, over 60 percent of the people actually reported severe fatigue. For the Moderna trial it was 80 percent. Ironically, 25 percent of the placebo recipients also reported severe fatigue. So, you know, how much of this is actually vaccine induced and how much is just the experience of this is unclear. But the bottom line message is, is that in all of this, there appears to be equal efficacy, whether you got severely affected for 24 to 48 hours or you had little to no symptoms at all. And I want to reassure everybody that, OK? You didn't get cheated if you didn't get sick. You didn't do something wrong, if you did have a bad headache. Now, I do want to point out, though, that there is one thing that's happening right now that has concerned people, and I can understand why, but it, too, is really, truly a minor reaction to the vaccine. And this is what's become really known as the covid rash. It usually often occurs first around the injected arm where you first got vaccinated. But some people actually see it become a much more widespread type of rash across the body. And even some people report it kind of feeling it inside their mouth. I have to say, Dr. Esther Freeman and colleagues in the Journal of the American Academy of Dermatology just published last week an entire series of cases of these rashes that resolved on their own, but could be assisted with either basically using steroid creams and antihistamines. Their bottom line conclusion if this happens the first time, go ahead and get the second dose anyway because of those who had it with the first dose, half of them didn't have it with the second dose at all. And those that did get it had a much milder case of it. And this isn't surprising because the ACE2 receptors, which are those receptors critical for the virus basically attaching to, actually are very, very frequently found in skin. And so you would expect to see these kinds of reactions possibly happen. But I want to reassure everybody, this is not a big challenge. So don't be surprised if you need to use steroid creams or antihistamines. Still, go ahead and get your dose. These are not at all an indication your vaccine response was inadequate or it was too much, it's just a reaction that happens with some

people. A couple of last comments. There is a concern if you are immune compromised or immunosuppressed in some way, you should talk to your physician about this and what basically we need to look for in terms of you being vaccinated and how much protection you get. This is true also for the frail elderly. Those are people often in long term care facilities or are being cared by someone. We know for influenza vaccines, for example, they can see a major reduction in vaccine effectiveness that is very different than what might be seen in younger, healthy adults. So we do want you to look at how well your vaccine response is that way, and I urge you to talk to your physicians about this vaccines. And finally, don't worry about getting your antibody measured. I've had many, many requests from people saying I've been vaccinated, but I need to get my antibody measures so I make sure I'm protected. We do not recommend that at all. Many of the tests out there are not that helpful in measuring the kind of antibodies that we're looking for relative to the vaccine. And so that's not something you need to even consider doing. If you're getting vaccinated with two doses, consider yourself generally well protected. And as we learn more about how people are, in fact immune over time, how long that protection lasts, what it looks like, we'll let you know. And if at some point a booster dose is needed, so it will be. We'll do that. But at this point, just know you're going to make it through just fine.

Chris Dall: [01:00:13] And now to our latest act of kindness, this one involving children and senior citizens. Can you share it with the audience, Mike?

Michael Osterholm: [01:00:21] Well, this is another one of those child ones, it's the ones I love most, and it also includes the grandpa/grandmas, which I also love very much. This came to us from Jill. And Jill is a school superintendent and I've edited out a little bit here so to protect the identification of the innocent, you might say. But she wrote, "Good afternoon, I'm a loyal listener to your podcast and wanted to share what our third graders are doing at our academy here in Minnesota. Our third grade students start each day with sharing acts of kindness they have seen. One day they had an idea to write senior citizens that might not be able to get out much. Their teacher was able to find 16 people for them to write to in our area. 'I wish I would have taken a video to show their smiles the day they read the first letters back,' the teacher shared. So far, the students have exchanged two letters with their pen pals. They really enjoyed learning about favorite hobbies or foods and things they have in common, such as games they like to play or pets they have. A few pen pals have even given a math problem for them

to solve to figure out their age. My pen pal's favorite book when they were in school was Heidi. We even found it in our library. The students really seem to enjoy the whole letter writing process and many want to continue writing their pen pals over the summer months. Some of our fourth graders have heard about the pen pals and have now joined in too. We hope others hear about how kind our students are and start spreading kindness in their own way. Thank you, Jill". What a lovely way to engage both students and our senior citizens in such a wonderful act of kindness. I'm sure it means a lot to them to get these messages and to see the enthusiasm and the excitement of these kids. So, Jill, congratulations. What a great act of kindness. I hope all the teachers out there consider how they can have their students be part of similar acts of kindness in their own communities. So thank you very, very much, Jill.

Chris Dall: [01:02:24] And a reminder to our listeners that if you want to share your pandemic act of kindness with us, please email us at OsterholmUpdate@umn.edu. Your closing thoughts today, Mike?

Michael Osterholm: [01:02:35] Well, thank you again, everyone, for being with us. This is a challenging time trying to balance what we do to look forward to the future and how we do that with respect to excitement and the sense that maybe by the end of the summer the worst could be over and at the same time facing the reality of what very well might be right in front of us. So it's a balancing act. But I think throughout all of this, I thought this past week of what might be a theme that would help blend this all together. And again, I had to go back to a golden oldie. I think maybe I could have worked for Casey Kasem back in the old days when he did the hits on the radio. This is one from our June 17th podcast, the 12th one we did. The title of the podcast was A Tale of Two Cities. This is a 1969 hit written by Curt Sapaugh and Bobby Austin. 11 different artists eventually recorded this song. It was a hit on three different music charts. It was number 2 on the country western chart. It was number 1 on the hot adult contemporary chart and it got to 23 on the Billboard's hot one hundred. And so it is Try a Little Kindness. 'If you see your brother standing by the road with a heavy load from the seeds he's sowed, and if you see your sister falling by the way, just stop and say you're going the wrong way. You've got to try a little kindness. Yes, show a little kindness, just shine your light for everyone to see, and if you try a little kindness, then you'll overlook the blindness of narrow minded people on the narrow minded streets. Don't walk around the down-and-out, lend a helping hand instead of doubt. And the kindness that you

show every day will help someone along their way. You've got to try a little kindness. Yes, show a little kindness. Just shine your light for everyone to see. And if you try a little kindness, then you'll overlook the blindness of narrow minded people on the narrow minded streets. You've got to try a little kindness, yes, show a little kindness, just shine your light for everyone to see. And if you try a little kindness, then you'll overlook the blindness of narrow minded people on the narrow minded streets'. Thank you again for spending your time with us. I hope this was helpful in understanding what at least we understand to be the situation today with covid-19. It's wonderful to be with you. As I've said time and time again, you are so important to all of us at CIDRAP and the CIDRAP podcast family. Your notes, all the things you share with us are very, very special. We welcome additional comments on the content. How can I improve this? How can our team work more to get you the information you want and need? Most of all, I close today remembering the smile I started this podcast with thinking about my three year old granddaughter and on balance, this was a hell of a good week. It was special. And so I hope that all of you have that same benefit of the best balance this week possible. But hang in there. We got some days ahead yet, but we can get through it. We will get through it. I just keep reminding you of that. We're so close. We are so close. Again, as I've said in previous weeks, you do not want to be the person who died three days before you're scheduled to get your covid shot. Don't. We can do this. So be kind. Be thoughtful and we're here. And I know you're there. Thank you very much.

Chris Dall: [01:06:38] Thanks for listening to this week's episode of the Osterholm Update. If you're enjoying the podcast, please subscribe, rate and review. And be sure to keep up with the latest covid-19 news by visiting our website CIDRAP.umn.edu. The Osterholm Update is produced by Maya Peters, Cory Anderson and Angela Ulrich.